

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
18 March 2004 (18.03.2004)

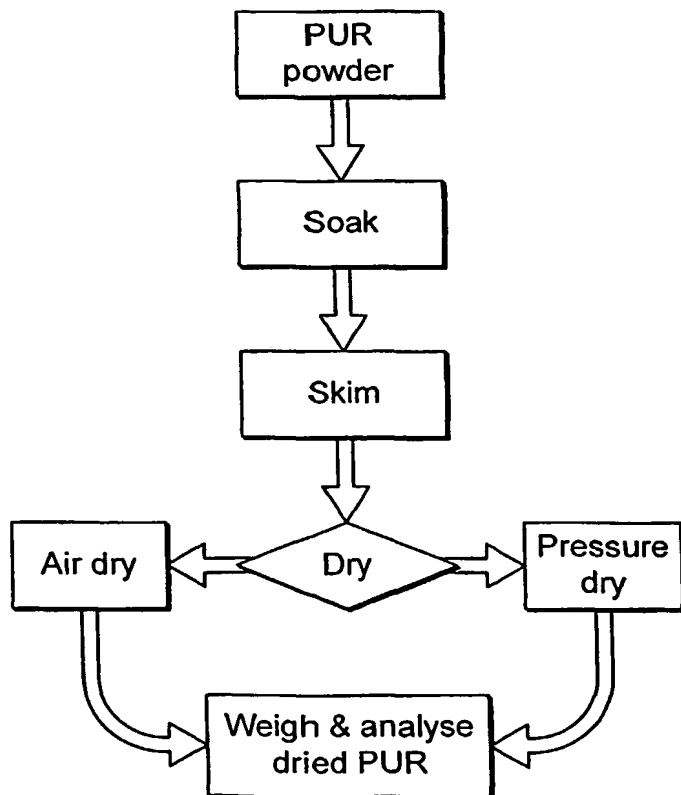
PCT

(10) International Publication Number  
**WO 2004/022503 A1**

- (51) International Patent Classification<sup>7</sup>: C04B 16/08, B28B 23/00, C08J 9/22
- (21) International Application Number: PCT/GB2003/003844
- (22) International Filing Date: 4 September 2003 (04.09.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 0220510.2 4 September 2002 (04.09.2002) GB
- (71) Applicant (for all designated States except US): PUR-CRETE LIMITED [GB/GB]; Baring House, 6 Baring Crescent, Exeter, Devon EX1 1TL (GB).
- (72) Inventor; and
- (73) Inventor/Applicant (for US only): O'KANE, Kevin, John [GB/GB]; 27 Felton Street, Felton, Bristol BS40 9YL (GB).
- (74) Agents: DEAN, John, Paul et al.; Withers & Rogers, Goldings House, 2 Hays Lane, London SE1 2HW (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

[Continued on next page]

(54) Title: POLYURETHANE-CONTAINING BUILDING MATERIALS



(57) Abstract: Concrete containing polyurethane is provided and construction elements comprising such concrete. Methods for the preparation of polyurethane for inclusion in such concrete and for the formation of construction elements comprising such concrete are also provided.

WO 2004/022503 A1

BEST AVAILABLE COPY



ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— with amended claims

Date of publication of the amended claims: 17 June 2004

**Published:**

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

BEST AVAILABLE COPY

## AMENDED CLAIMS

[ Received by the International Bureau on 08 April 2004 (08.04.04);  
Original claim 54 amended; remaining claims unchanged (1 page)]

51. A method according to claim 50 wherein the components of the mix are present in the quantities:

Cement	375 kg/m <sup>3</sup>
PUR	250 kg/m <sup>3</sup>
Bulking agent	250 kg/m <sup>3</sup>
Waterproofing agent (Hydrophobe)	0.1-0.3% w/w cement
Flowing agent (Airalon)	0.03-0.06% w/w cement
Water	200 l/m <sup>3</sup>

52. A method according to claim 50 wherein the components of the mix are present in the quantities:

Cement	300 kg/m <sup>3</sup>
PUR	327 kg/m <sup>3</sup>
Waterproofing agent (Hydrophobe)	0.1-0.3% w/w cement
Flowing agent (Airalon)	0.03-0.06% w/w cement
Water	373 l/m <sup>3</sup>

53. A PUR building material obtainable by a method of any of claims 41 to 52.

54. A method of preparing a construction element comprising:

- preparing a mould sized to reflect the intended dimensions of the construction element;
- introducing a PUR building material according to claim 53 into the mould;
- curing the formed construction element; and
- separating the mould and the construction element.

**BEST AVAILABLE COPY**